

IN THE CLAIMS:

Please cancel claim 35 without prejudice or disclaimer as follows:

26. (previously amended) A synthesis system, comprising a vessel for combinatorial chemical process having:

a charge port comprising an air lock capable of sequentially receiving a plurality of discrete combinations of reactants;

a vertically longitudinal reaction chamber in communication with said charge port, said reaction chamber being capable of receiving and enclosing the plurality of discrete combinations of reactants disposed linearly within said chamber; and

a discharge port comprising an air lock, distinct from said charge port, in communication with said vertically longitudinal reaction chamber to sequentially discharge reaction products of said combinations from said reaction chamber;

wherein said vertically longitudinal reaction chamber is adapted to receive each of said combinations of reactants in a vial by sequential gravity loading from the charge port.

27. (canceled)

28. (canceled)

29. The system of claim 26, wherein said charge port and said discharge port each comprises an air lock controlled by a ball valve.

30. (cancelled)

31. (previously amended). The system of claim 26, further comprising a detector proximate to said discharge port to detect said sequentially discharged reaction product from said reaction chamber.

432. (original) The system of claim 26, further comprising a controller in communication with said reaction vessel to control varying reaction parameters within said chamber.

533. (original) The system of claim 26, further comprising a controller in communication with said reaction vessel to control a sequence of charging said combinations of reactants to said chamber or a sequence of discharging said products from said chamber.

634. (original) The system of claim 26, further comprising a detector in communication with said discharge port to detect said sequentially discharged reaction products and a processor in communication with said controller and said detector to correlate reaction or reactant variables with a corresponding reaction product.

a detector proximate to said discharge port to detect said sequentially discharged reaction product from said reaction chamber; and

a controller in communication with said reaction vessel to control varying reaction parameters within said chamber.